Appl. No. 10/083,576

Reply to: Office Action of June 8, 2005

Title: METHOD FOR PURIFYING CANCER-SPECIFIC PROLIFERATING CELL NUCLEAR

ANTIGEN

AMENDMENT

In the Specification

Please amend the specification as follows:

In the BRIEF DESCRIPTION OF THE DRAWINGS section please add the following after "Figure 8" (Page 7, Lines 25-27):

Figure 9 is an illustration showing the presence of csPCNA in two different prostate adenocarcinoma cell lines. Western blot analysis of PCNA resolved by two-dimensional gel electrophoresis (2D-PAGE) from the LNCaP (A) and PC50 (B) cell lines, such that the acidic csPCNA isoform may be readily detected as indicated by the arrow in (A).

Figure 10 is an illustration showing the presence of csPCNA in malignant colon cells. The resolution of protein isolated from three malignant colon adenocarcinoma cell lines KGE90 (A), KYE350 (B), and SW48 (C) are shown below showing the presence of csPCNA (arrow).

Figure 11 is an illustration showing the presence of csPCNA in malignant cervical and brain cells. The HeLa malignant cervical cell line (A) and T98 malignant glioma cell line (B) were tested for the presence of csPCNA and both were found to contain the isoform, which were indistinguishable between the cancers.

Figure 12 is an illustration showing the presence of csPCNA in leukemia cells. The human leukemia cell line HL60 (A), leukemic cells obtained from the serum of an individual with acute myelogenous leukemia (AML) (B), and leukemic cells isolated from three individuals with chronic myelogenous leukemia (CML) (C-E) all express the csPCNA isoform (arrow).

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Please insert the following on Page 10 after the second full paragraph that ends on Line 17 and before the next paragraph that begins on Line 18.

The cancer-specific isoform of proliferating cell nuclear antigen (csPCNA) is present in various cancers. Detection of the acidic csPCNA isoform for two different prostate adenocarcinoma cell lines is shown in FIG. 9. The position or resolution of the acidic csPCNA isoform may be readily detected as indicated by the arrow in (A). FIG. 10 shows the detection of the acidic csPCNA isoform in malignant colon adenocarcinoma cell lines. Interestingly, two of the colon cell lines (KGE90 and KYE350) apparently contain only the csPCNA isoform. The resolution of csPCNA in these colon cells are identical to that of prostate and breast cells. Malignant cervical and brain cells also express the acidic csPCNA isoform, as shown in FIG. 11. The position of the csPCNA in the gels shown in FIG. 11 is indicated with an arrow and is identical to csPCNA observed in the other cancer cell lines. FIG. 12 illustrates the expression of the acidic csPCNA isoform in various leukemia cells. From these various examples, is has been shown that the csPCNA isoform resolves at exactly the same isoelectric point (pI) in all of the samples and represents a single distinct isoform. Therefore, the csPCNA isoform represents a general biomarker for the detection of malignancy, regardless of the type of cancer.